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TITLE: MANUFACTURE OF SEMICONDUCTOR

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INVENTOR-INFORMATION:

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ABSTRACT:

**PURPOSE:** To manage and control the thickness of a polymer film by measuring the capacitance or resistance of a monitoring wafer piece placed on the lower electrode of opposed electrodes.

**CONSTITUTION:** Areas S of a lower electrode 12b and a capacitance measuring terminal 16a, and area S, thickness D, and permittivity  $\epsilon$  of a monitoring wafer piece 13 are measured before etching. A gate 15 is opened, a push rod 17 is used to place the terminal 16 on the piece 13, a switch 20 is switched, and capacitance CS is measured by a capacitance meter 18. The terminal 16 is returned to an isolation vacuum vessel 14 by using the rod 17, the gate 15 is closed, and the wafer 11 is etched. After the etching is finished, the terminal 16 is placed on the piece 13, and the capacitance C is measured. When a polymer is deposited on the piece 13, the thickness of the polymer film is obtained by the variation in the capacitance C or resistance to manage, control the etching.

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